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following report in regard to the discourse in commemoration of the late President, delivered by Dr. Duglison:—

That pursuant to the notice heretofore communicated to the Society, the discourse in commemoration of our late President, Mr. Du Ponceau, was pronounced by Dr. Duglison on the 25th of October, 1844, at the Musical Fund Hall. The Society was honoured on the occasion by the presence of the relatives of the deceased, and of numerous ladies, many of the reverend clergy, the members of the diplomatic corps, the State Society of the Cincinnati, and the officers of the army and navy in the city at the time; the officers of the several municipal corporations, the judges of the courts of the United States and State, the trustees and professors of the University and Colleges, the members of the different learned and literary societies, and a large number of citizens. The Committee herewith present the manuscript of the Discourse, and submit for the consideration of the Society the following resolutions:—

1. *Resolved*, That the Discourse pronounced by Dr. Duglison in commemoration of the late President, Mr. Du Ponceau, be published under the directions of the Committee of Arrangements.

2. *Resolved*, That the Treasurer be, and he is hereby authorized to pay the several expenses incurred, and to be incurred, by the Committee, under the orders of the Society, provided the same shall not exceed the sum of two hundred dollars.

Both the above resolutions were agreed to by the Society.

Mr. Kane announced the death of Mr. Nathan Dunn, a member of the Society, who died at Vevay, in Switzerland, on the fifteenth of September; and, on motion, Dr. Emerson was appointed to deliver an obituary notice of the deceased.

Stated Meeting, November 15.

Present, twenty-five members.

Dr. BACHE, Vice-President, in the Chair.

A letter was read from the executive committee of the New York Historical Society, dated New York, October 28, 1844,

inviting the American Philosophical Society to their fortieth anniversary celebration, on Wednesday, the 20th of November. On motion, a special letter of acknowledgment was directed to be addressed to the Society.

The following donations were announced:—

FOR THE LIBRARY.

Report intended to illustrate a Map of the Hydrographical Basin of the Upper Mississippi River, made by J. N. Nicollet, while in employ under the Bureau of the Corps of Topographical Engineers. Washington, 1843. Two copies. 8vo. Senate, 26th Congress, 2d Session, No. 237.—*From Colonel J. J. Abert, U. S. Topographical Engineers.*

Quarterly Summary of the Transactions of the College of Physicians of Philadelphia. Vol. 1. Nos. VII. and VIII. From May, 1843, to October, 1844, inclusive. 8vo.—*From the College of Physicians.*

Encyclopædia Britannica: or, a Dictionary of Arts, Sciences, and Miscellaneous Literature; enlarged and improved. The Sixth Edition. Illustrated with nearly six hundred Engravings. Edinburgh, 1823. 23 Volumes. 4to.

Supplement to the Fourth, Fifth, and Sixth Editions of the Encyclopædia Britannica, with Preliminary Dissertations on the History of the Sciences. Illustrated by Engravings. Edinburgh, 1844. 6 Volumes. 4to.—*From Clement C. Biddle, Esq.*

An Oration delivered at Cambridge, before the Phi Beta Kappa Society in Harvard University, August 29th, 1844. By George Putnam. Boston, 1844. 8vo.—*From Henry D. Rogers.*

Descriptio Anatomico-Pathologica Uteri duplicis, quorum uterque vario tempore gravidus erat. With a Plate. By Professor Bujalsky. St. Petersburg, 1832. A folio pamphlet in the Russian Language.—*From the Author.*

An Account of the Transposition of the Human Viscera. By Professor Bujalsky. In Russian. St. Petersburg, 1829. A folio pamphlet.—*From the Author.*

On motion of the Librarian, the thanks of the Society were given to Col. Biddle, for the valuable present of a copy of the Encyclopædia Britannica; Sixth Edition, with Supplements.

The Committee, consisting of Mr. Walker, Dr. Patterson,

and Professor Frazer, on Major Graham's communication presented on the 16th of August, and entitled "Observations on the Magnetic Dip, made at several positions, chiefly on the South-western and North-eastern frontiers of the United States, and of the Magnetic Declination at two points on the River Sabine, in 1840," reported in favour of the publication of the same, in an abridged form, in the Transactions of the Society, but as the report was not accompanied by such abridgment, as required by the laws of the Society, the paper was recommended.

A communication was read from Professor Loomis, entitled "Astronomical Observations made at Hudson Observatory. Lat. $41^{\circ} 14' 42''$ North, and Longitude $5h. 25m. 39s.5$ West, Third Series," which was referred to a Committee, consisting of Mr. Walker, Dr. Patterson, and Professor Kendall.

A letter from Professor Alexander, of Princeton, to Mr. Walker, dated College of New Jersey, Nov. 13th, 1844, was read, which contained a notice of some Astronomical Observations communicated to him by M. Bessel, of Königsberg, in regard to the proper motions of Procyon in Declination, and of Sirius in Right Ascension.

"One of the latest results (says M. Bessel), which have offered themselves to me, appears to be a very important one for Practical Astronomy. I have been enabled by my own observations made during the last thirty years, and also by those made at other Observatories since 1750, to establish as an indubitable fact, that the proper motions of Procyon in Declination, and of Sirius in Right Ascension, are *not* proportional to time. The difference being very sensible, it will no longer be permitted to suppose the places of these stars known for any time by their observations made at *two* epochs.

"The fact of a variable proper motion seems to indicate, that stars, which are subject to it, are parts of comparatively *small* systems, such as are double stars. The phenomenon cannot be explained by *attraction*, if the distance of the attracting mass is not very small in proportion to the distance of the star from the Sun.

A Memoir upon "this interesting matter is now printing in the *Astronomische Nachrichten*."

M. Bessel pays a tribute to the zeal with which Astronomy

is now cultivated in America, and to the valuable matter recently contributed by American astronomers.

Dr. Patterson remarked, that this discovery of Bessel further increased the difficulties of Practical Astronomy. First, the stars were considered as *fixed*; afterwards, their proper motions were ascertained, but were supposed to be uniform. Now these proper motions are found to be variable.

Mr. Walker observed, that there was difficulty in supposing the existence of an opaque centre of attraction, and that possibly the stars Sirius and Procyon were stellar systems not divisible by our telescopes.

Mr. Walker gave a brief account of the progress of Professor Kendall's observations at the High School Observatory, since the mounting of the Ertel Meridian Circle.

The circle had been tested by reading with each of the four verniers, for every 5° , and the circle was found not to have been injured in transition, nor in mounting. The average reduction of the reading of any one vernier to that of the mean of the four being about $3''$.

Although 50 feet high, the insulated tower was so still that the stars could be observed with great facility and certainty, by reflection from quicksilver, with a power of 200. The first trials of the instrument had given for the latitude of the Observatory $39^{\circ} 57' 7''$; and the polar point determined by any two successive culminations of polaris differed not more than $1''$ from the point obtained by the fundamental stars, using for their declinations the most recent values given by Bessel and Airy.

Mr. Walker also remarked, that the latitude found for the High School Observatory, by Mr. Paine, with the sextant of the Massachusetts Survey, as well as that which Messrs. Kendall, Riggs and himself had found from sextant observations,—after applying to the declinations of the stars formerly used, the more recent corrections of Airy,—differed less than a second from the indications of the Ertel Meridian Circle.

Mr. Walker regarded this coincidence as confirmatory of his former remarks on Mr. Paine's method of determining latitudes by a sextant, in the Proceedings, Vol. II., page 166; a conclusion of great importance, when we consider that all the latitudes of the Massachusetts survey depended upon this method.

He further stated, that Professor Kendall and his assistants had

made extensive observations of the two recent comets with the Equatorial, and had computed their elements and ephemeris, and published them in the daily papers, for immediate circulation among astronomers.

Mr. Walker concluded by remarking, that a review of the stars in the zone, from the 15th to the 30th parallel of south declination, had been commenced and carried on thus far by Mr. Joseph S. Hubbard, now Assistant of the Topographical Corps. The catalogue now contains about 250 double stars, of which only about 100 can be found in the Herschell's or South's Catalogues.

Dr. Hare mentioned, that a roseate tint may be imparted to the light from carburetted hydrogen, by the interposition of mica.

A thin sheet of this substance, curved into the cylindrical form so as to enter a glass chimney, will retain the form thus imparted, in consequence of its elasticity and the confinement of the including glass. Thus employed, mica had been found competent to correct the lurid influence of gas illumination, so much objected to by all who are desirous to appear "*couleur de rose*."

Very neat chimneys had been constructed, and maintained in the cylindrical form, by frames of tin plate, secured by rivets. Of course, the more delicate the frames, consistently with due firmness, the better. However costly at first, mica chimneys, he believed, would be cheaper in the long run, than those in common use.

When employed within a glass chimney, as he had described, the mica afforded the glass much protection against the flaming gas.

The mica, by which these results were obtained, when in thick plates, had a brownish red tinge, whether seen by reflected or by transmitted light.

Dr. Hare likewise entered into some arguments and considerations respecting a recent speculation of Mr. Faraday, on electric conduction, and the nature of matter, contained in the London and Edinburgh Philosophical Magazine and Journal, for February, 1844. This speculation will be fully stated and discussed by Dr. Hare, in a forthcoming number of Silliman's American Journal of Science.

Mr. Kane, on the part of the appropriate Committee, announced that the Commemorative Discourse on the late President of the Society, would be ready for delivery in a few days.

On motion of the Librarian, he was authorized to distribute the remaining copies of the Eulogium delivered on Rittenhouse by Dr. Rush.

Stated Meeting, Dec. 6.

Present, thirty-three members.

DR. CHAPMAN, Vice-President, in the Chair.

Letters were announced and read:—

From Professor Bujalsky, of St. Petersburg, accompanying the donation of a work on astronomy:—and

From Professor A. D. Bache, superintendent of the survey of the coast of the United States, dated Washington, Nov. 1, 1844, accompanying the sheets of a Map of New York Bay and Harbour, presented by him to the Society.

The following donations were announced:—

FOR THE LIBRARY.

The Journal of the Royal Asiatic Society of Great Britain and Ireland. Vol. VIII. Part 1. Whole number, XV. 8vo.—*From the Society.*

Journal Asiatique. Quatrième Série. Tome IV. Nos. 16, 17. Juillet, Août, 1844. 8vo.—*From the Asiatic Society of Paris.*

Map of New York Bay and Harbour, and the Environs. Founded upon a Trigonometrical Survey, under the direction of F. R. Hassler, Superintendent of the Survey of the Coast of the United States. Triangulation by James Ferguson and Edmund Blunt, Assistants. The Hydrography under the direction of Thomas R. Gedney, Lieut. U. S. Navy. The Topography by C. Renard and J. A. Jenkins, Assistants. Published in 1844, and presented under authority of an Act of Congress of the United States of June 3d, 1844, and by direction of the Treasury Department. A. D. Bache, Superintendent of the Coast Survey. In four Sheets.—*From the Treasury Department, through Prof. A. D. Bache.*

Proceedings of the Academy of Natural Sciences of Philadelphia.